

# MDE Semiconductor, Inc.

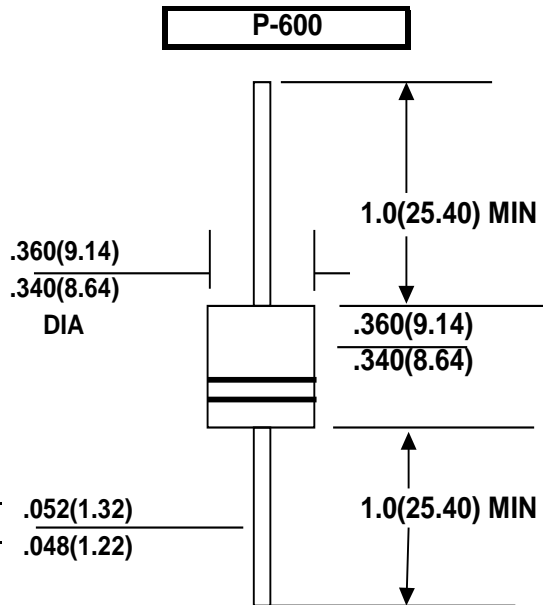
78-150 Calle Tampico, Unit 210, La Quinta, CA., USA 92253 Tel : 760-564-8656 • Fax : 760-564-2414  
1-800-831-4881 Email: sales@mdesemiconductor.com Web: www.mdesemiconductor.com

## 15KW SERIES

### GLASS PASSIVATED JUNCTION TRANSIENT VOLTAGE SUPPRESSOR VOLTAGE-17.0 TO 280 Volts 15000 Watt Peak Pulse Power

#### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Glass passivated junction
- 15000W Peak Pulse Power capability on 10/1000  $\mu$ s waveform
- Excellent clamping capability
- Repetition rate (duty cycle):0.05%
- Low incremental surge resistance
- Fast response time: typically less than 1.0 ps from 0 volts to BV
- High temperature soldering guaranteed: 265°C/10 seconds/.375", (9.5mm) lead length, 5lbs., (2.3kg) tension



Dimensions in inches (millimeters)

#### MECHANICAL DATA

Case: Molded plastic over glass passivated junction  
 Terminals: Plated Axial leads, solderable per MIL-STD-750, Method 2026  
 Polarity: Color band denoted positive end (cathode) except Bipolar  
 Mounting Position: Any  
 Weight: 0.07 ounce, 2.1 gram

#### DEVICES FOR BIPOLAR APPLICATIONS

For Bidirectional use C or CA Suffix for types 15KW17 thru types 15KW280  
 Electrical characteristics apply in both directions.

#### MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

| RATING  | SYMBOL         | VALUE         | UNITS |
|---|----------------|---------------|-------|
| Peak Pulse Power Dissipation on 10/1000 $\mu$ s waveform (NOTE 1)                               | $P_{PPM}$      | Minimum 15000 | Watts |
| Peak Pulse Current of on 10-1000 $\mu$ s waveform (NOTE 1)                                      | $I_{PPM}$      | SEE TABLE 1   | Amps  |
| Steady State Power Dissipation at $T_I=75^\circ\text{C}$ Lead Lengths.375", (9.5mm)(NOTE 2)     | $P_M(AV)$      | 8.0           | Watts |
| Peak Forward Surge Current, 8.3ms Sine-Wave Superimposed on Rated Load, (JEDEC Method) (NOTE 3) | $I_{FSM}$      | 400.0         | Amps  |
| Operatings and Storage Temperature Range  | $T_J, T_{STG}$ | -55 to +175   | °C    |

**NOTES:**

1. Non-repetitive current pulse, per Fig.3 and derated above  $T_a=25^\circ\text{C}$  per Fig.2.
2. Mounted on Copper Pad area of 0.8x0.8" (20x20mm) per Fig.5.
3. 8.3ms single half sine-wave, or equivalent square wave, Duty cycle=4 pulses per minutes maximum

Certified RoHS Compliant  
 UL File # E223026

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## 15KW Series Rating and Characteristics

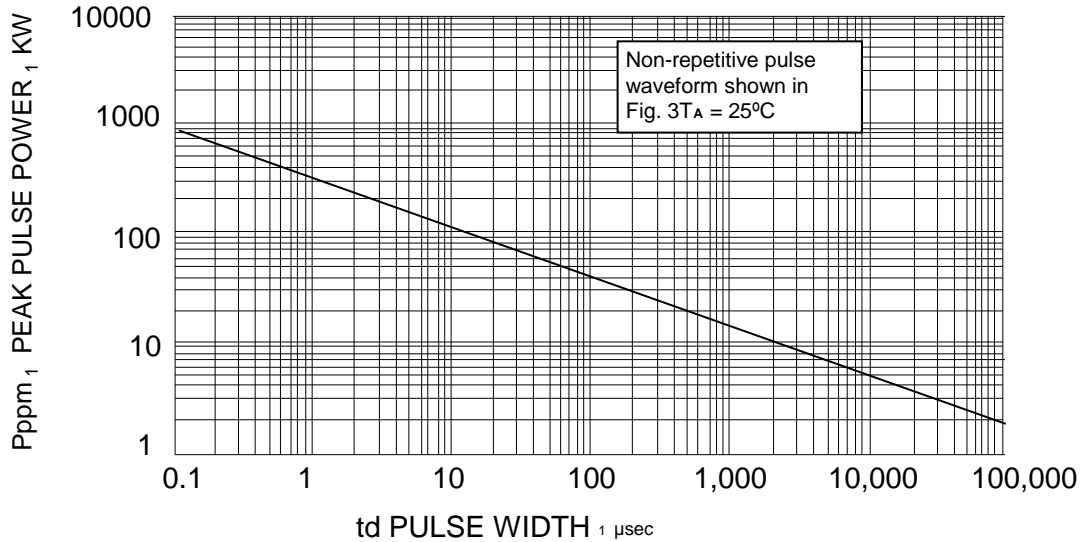
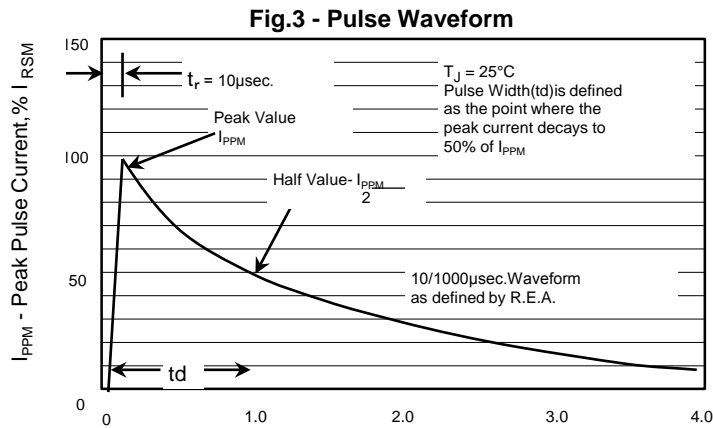
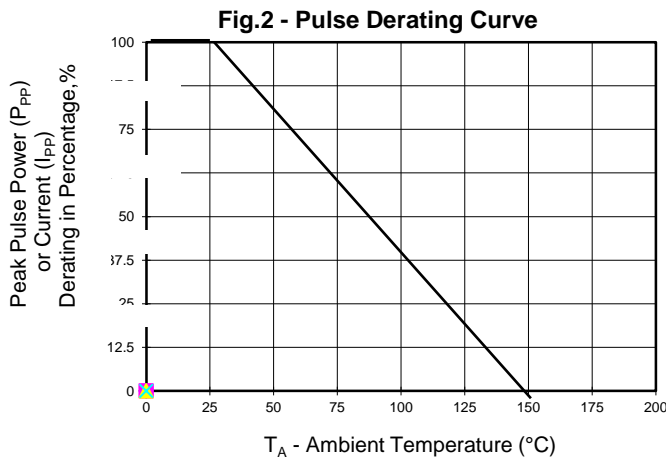


FIG. 1 PEAK PULSE POWER RATING



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## 15000 Watt TVS

| UNI-POLAR | BI-POLAR  | REVERSE<br>STANDOFF<br>VOLTAGE<br>$V_{RWM}$ (V) | BREAKDOWN<br>VOLTAGE<br>$V_{BR}$ (V)<br>MIN. @ $I_T$ | TEST<br>CURRENT<br>( $I_T$ )<br>mA | MAXIMUM<br>CLAMPING<br>VOLTAGE<br>@ $I_{PP}$ $V_C$ (V) | PEAK<br>PULSE<br>CURRENT $I_{PP}$<br>(A) | REVERSE<br>LEAKAGE<br>@ $V_{RWM}$ $I_R$<br>( $\mu$ A) |
|-----------|-----------|---|--|------------------------------------|--|--|---|
| 15KW17A   | 15KW17CA  | 17  | 18.99  | 50                                 | 29.3   | 515.4                                    | 5000  |
| 15KW18A   | 15KW18CA  | 18  | 20.11  | 50                                 | 30.9   | 488.7                                    | 5000  |
| 15KW20A   | 15KW20CA  | 20  | 22.34  | 20                                 | 34.3   | 440.2                                    | 1500  |
| 15KW22A   | 15KW22CA  | 22  | 24.57  | 10                                 | 37.1   | 407.0                                    | 500   |
| 15KW24A   | 15KW24CA  | 24  | 26.81  | 5                                  | 40.7   | 371.0                                    | 150   |
| 15KW26A   | 15KW26CA  | 26  | 29.04  | 5                                  | 44.0   | 343.2                                    | 50  |
| 15KW28A   | 15KW28CA  | 28  | 31.28  | 5                                  | 47.5   | 317.9                                    | 25  |
| 15KW30A   | 15KW30CA  | 30  | 33.51  | 5                                  | 50.7   | 297.8                                    | 15  |
| 15KW33A   | 15KW33CA  | 33  | 36.90  | 5                                  | 54.7   | 276.1                                    | 5   |
| 15KW36A   | 15KW36CA  | 36  | 40.20  | 5                                  | 59.8   | 252.5                                    | 5   |
| 15KW40A   | 15KW40CA  | 40  | 44.70  | 5                                  | 65.8   | 229.5                                    | 5   |
| 15KW43A   | 15KW43CA  | 43  | 48.00  | 5                                  | 69.8   | 216.3                                    | 5   |
| 15KW45A   | 15KW45CA  | 45  | 50.30  | 5                                  | 72.8   | 207.4                                    | 5   |
| 15KW48A   | 15KW48CA  | 48  | 53.60  | 5                                  | 77.7   | 194.3                                    | 5   |
| 15KW51A   | 15KW51CA  | 51  | 57.00  | 5                                  | 82.8   | 182.1                                    | 5   |
| 15KW54A   | 15KW54CA  | 54  | 60.30  | 5                                  | 87.7   | 172.2                                    | 5   |
| 15KW58A   | 15KW58CA  | 58  | 64.80  | 5                                  | 93.8   | 161.0                                    | 5   |
| 15KW60A   | 15KW60CA  | 60  | 67.00  | 5                                  | 97.4   | 155.0                                    | 5   |
| 15KW64A   | 15KW64CA  | 64  | 71.50  | 5                                  | 104.2  | 144.9                                    | 5   |
| 15KW70A   | 15KW70CA  | 70  | 78.20  | 5                                  | 113.6  | 132.9                                    | 5   |
| 15KW75A   | 15KW75CA  | 75  | 83.80  | 5                                  | 122.0  | 123.8                                    | 5   |
| 15KW78A   | 15KW78CA  | 78  | 87.10  | 5                                  | 126.1  | 119.7                                    | 5   |
| 15KW85A   | 15KW85CA  | 85  | 94.90  | 5                                  | 137.6  | 109.7                                    | 5   |
| 15KW90A   | 15KW90CA  | 90  | 100.50   | 5                                  | 145.6  | 103.7                                    | 5   |
| 15KW100A  | 15KW100CA | 100   | 111.70   | 5                                  | 161.3  | 93.6                                     | 5   |
| 15KW110A  | 15KW110CA | 110   | 122.90   | 5                                  | 178.6  | 84.5                                     | 5   |
| 15KW120A  | 15KW120CA | 120   | 134.00   | 5                                  | 192.3  | 78.5                                     | 5   |
| 15KW130A  | 15KW130CA | 130   | 145.20   | 5                                  | 208.3  | 72.5                                     | 5   |
| 15KW150A  | 15KW150CA | 150   | 167.60   | 5                                  | 241.9  | 62.4                                     | 5   |
| 15KW160A  | 15KW160CA | 160   | 178.70   | 5                                  | 258.6  | 58.4                                     | 5   |
| 15KW170A  | 15KW170CA | 170   | 189.90   | 5                                  | 272.7  | 55.4                                     | 5   |
| 15KW180A  | 15KW180CA | 180   | 201.10   | 5                                  | 288.5  | 52.3                                     | 5   |
| 15KW200A  | 15KW200CA | 200   | 223.40   | 5                                  | 319.1  | 47.3                                     | 5   |
| 15KW220A  | 15KW220CA | 220   | 245.70   | 5                                  | 356.0  | 42.0                                     | 5   |
| 15KW240A  | 15KW240CA | 240   | 268.10   | 5                                  | 384.6  | 39.3                                     | 5   |
| 15KW260A  | 15KW260CA | 260   | 290.40   | 5                                  | 416.7  | 36.2                                     | 5   |
| 15KW280A  | 15KW280CA | 280   | 312.80   | 5                                  | 454.5  | 33.2                                     | 5   |

BLANK INDICATES UNIPOLAR DEVICE  $\pm 10\%$  ON VBR

A INDICATES UNIPOLAR DEVICE  $\pm 5\%$  ON VBR

C INDICATES BIPOLAR DEVICE  $\pm 10\%$  ON VBR

CA INDICATES BIPOLAR DEVICE  $\pm 5\%$  ON VBR

UL File # E223026